



UNITED STATES PATENT AND TRADEMARK OFFICE

UNITED STATES DEPARTMENT OF COMMERCE
United States Patent and Trademark Office
Address: COMMISSIONER FOR PATENTS
P.O. Box 1450
Alexandria, Virginia 22313-1450
www.uspto.gov

| APPLICATION NO. | FILING DATE | FIRST NAMED INVENTOR | ATTORNEY DOCKET NO. | CONFIRMATION NO. |
|-----------------|-------------|----------------------|---------------------|------------------|
| 09/944,280 | 08/30/2001 | Shawn R. Gettemy | PALM-3675 | 1896 |

7590 03/14/2005
WAGNER, MURABITO & HAO LLP
Third Floor
Two North Market Street
San Jose, CA 95113

EXAMINER

WU, XIAO MIN

| ART UNIT | PAPER NUMBER |
|----------|--------------|
|----------|--------------|

2674

DATE MAILED: 03/14/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/944,280

Applicant(s)

GETTEMY ET AL.

Examiner

XIAO M. WU

Art Unit

2674

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 18 February 2005.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-9, 11-16, 18-24 and 26-35 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-4, 7-9, 11-16, 18-24, 26-32 and 35 is/are rejected.
- 7) ☒ Claim(s) 5, 6, 33 and 34 is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- ☒ Notice of References Cited (PTO-892)
- ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____
- ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- ☐ Notice of Informal Patent Application (PTO-152)
- ☐ Other: _____

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 2/18/2004 has been entered.

Allowable Subject Matter

2. The indicated allowability of dependent claims 9, 10, 17, 18, and 25 now incorporated into independent claims 1, 13 and 24, respectively, is withdrawn in view of the newly discovered reference(s) to Pelrine et al. (Applications of Dielectric Elastomer Actuators) and Bellin (US Patent No. 4,857,916). Rejections based on the newly cited reference(s) follow.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later

Art Unit: 2674

invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

5. Claims 1, 3-4, 7-8, 11, 13-16, 18-22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. (US Patent No. 6,243,074) in view of Pelrine et al ("Application of Dielectric Elastomer Actuators").

As to claims 1, 13, Fishkin discloses a portable computer (20, Fig. 1 or 122, Fig. 3) comprising: a bus (e.g. the dash lines connecting between elements 26, 24, 28, 32, 33 in Fig. 1); a processor (24) coupled to the bus; a housing (20) comprising a dielectric elastomer electronic muscle material (e.g. the deformable surface 20 is synthetic rubber, which is one kind of the dielectric material, and deformation sensor mesh 22), the electronic muscle material, when moved, causing the processor to behave in a prescribed manner (see Figs. 3 and 4); a display device (30) coupled to the bus and for providing a visual display; and wherein the processor (24) implements a user interface for controlling the display as recited in claim 1. Fishkin further discloses a portable electronic device comprising: a processor (24) coupled to a bus; a display module (30) for displaying information and coupled to the bus; a memory (26) for storing information and coupled to the bus; an electronic muscle material (22, 28) coupled to the bus and for use as an input device as recited in claim 13.

It is noted that Fishkin does not disclose the electronic muscle material vibrates at a frequency as specified by the processor for use as a speaker. Pelrine is cited to teach an electronic muscle material vibrates at a frequency as specified by the processor for use as a speaker (see Table 3 of Pelrine). It would have been obvious to have modified Fishkin with the

Art Unit: 2674

features of the electronic muscle material vibrates for use as a speaker as taught by Fishkin so as to eliminate a speaker and reduce the cost.

As to claims 3, 21, Fishkin discloses that the movement of the electronic muscle causes the processor to sense handling by user for determination of left-handedness or right-handedness thereof (col. 3, lines 28-37).

As to claim 4, Fishkin discloses that in response to the determination of handed the electronic material generated a plurality of function buttons in proximity user's fingers (e.g. a plurality of sensors 26, 28 function as a plurality of buttons are surrounding to the display and can perform different functions such as moving object, scrolling the image etc. by touching the sensors or buttons).

As to claim 7, Fishkin discloses the electronic muscle material vibrate to apprise user of relevant message being display (col. 15, lines 20-26).

As to claim 8, Fishkin discloses the electronic material can be resized and rescale (col. 9, lines 40-51).

As to claims 11, 19, Fishkin discloses sound detection by vibration which is equivalent to a microphone (see col. 15, lines 19-34).

As to claim 14, Fishkin discloses the muscle material comprises a plurality of buttons (e.g. the sensor 22 and 28) for user input.

As to claim 15, Fishkin discloses the electronic muscle material generates information used by the processor for detecting the placement of user finger (e.g. depress, squeeze, fold pinch, etc.).

Art Unit: 2674

As to claim 16, Fishkin discloses that the locations of the plurality of buttons (or sensors) are defined based on the displacement of the user fingers on the electronic muscle material. For example, the sensor or button can be placed on the edge of the display or on corner of the display, or on the back of the display for left hand fingers and right hand finger (see Figs. 3, Fig. 9, and Figs. 38, 39, respectively).

As to claims 18 and 20, the location of the speaker or the microphone is considered as an obvious design choice since it would have been obvious to one of ordinary skill in the art to have arranged the location of the speaker or microphone in a proper position within the housing.

As to claim 22, Fishkin discloses that the electronic muscle generates information used by the processor for detecting the identity of a user (e.g. voice identification, see col. 15, lines 27-33 and Fig. 27).

6. Claims 2 and 23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. (US Patent No. 6,243,074) in view of Pelrine et al ("Application of Dielectric Elastomer Actuators") as applied to claims 1 and 13 above, and further in view of Henty (US Patent No. 5,838,138).

As to claims 2 and 23, it is noted that Fishkin as modified discloses the device including a rechargeable battery but fails to disclose the movement of the electronic muscle material cause charging of the battery. Henty is cited to teach a portable computer device which including a mechanical power converter for converting movement of the input device into electrical current to cause charging of the battery (see Fig. 1a, 1b). It would have been obvious to one of ordinary skill in the art to have included a mechanical power converter as taught by Henty into the

Art Unit: 2674

electronic muscle device of Fishkin as modified , so that the deformation movement of the electronic muscle can generate electrical current for charging the battery, so as to save power.

7. Claim 9 is are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. (US Patent No. 6,243,074) in view of Pelrine et al ("Application of Dielectric Elastomer Actuators") as applied to claims 1 and 13 above, and further in view of Bellin (US Patent No. 4,857,916).

It is noted that Fishkin and Pelrine do not disclose the conformance to shape of user's hand generates contour data which is used by the processor to identify a user for purpose of user authorization. Bellin is cited to teach deformable sensor which can sense the pressure and relative location of hand and compared the reference data stored in the memory to identify an individual (see col. 3, lines 10-40). It would have been obvious to one of ordinary skill in the art to have modified Fishkin and Pelrine with the hand identification as taught by Bellin so as to provide a security protection device for the users.

8. Claims 24, 26-29, 31-32, 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. (US Patent No. 6,243,074) in view of Bellin (US Patent No. 4,857,916).

As to claims 24 and 29, Fishkin discloses a portable computer (20, Fig. 1 or 122, Fig. 3) comprising: a bus (e.g. the dash lines connecting between elements 26, 24, 28, 32, 33 in Fig. 1); a processor (24) coupled to the bus; a housing (20) comprising a dielectric elastomer electronic muscle material (e.g. the deformable surface 20 is synthetic rubber, which is one kind of the dielectric material, and deformation sensor mesh 22), the electronic muscle material, when moved, causing the processor to behave in a prescribe manner (see Figs. 3 and 4); a display device (30) coupled to the bus and for providing a visual display; and wherein the processor (24)

Art Unit: 2674

implements a user interface for controlling the display. Fishkin further discloses the electronic muscle material conforms to the shape of user's hand for improved ergonomics (e.g. the device of Fishkin can be formed in different shapes).

It is noted that Fishkin does not disclose the conformance to shape of user's hand generates contour data which is used by the processor to identify a user for purpose of user authorization. Bellin is cited to teach deformable sensor which can sense the pressure and relative location of hand and compared the reference data stored in the memory to identify an individual (see col. 3, lines 10-40). It would have been obvious to one of ordinary skill in the art to have modified Fishkin with the hand identification as taught by Bellin so as to provide a security protection device for the users.

As to claim 26, Fishkin discloses that the locations of the plurality of buttons (or sensors) are defined based on the displacement of the user fingers on the electronic muscle material. For example, the sensor or button can be placed on the edge of the display or on corner of the display, or on the back of the display for left hand fingers and right hand finger (see Figs. 3, Fig. 9, and Figs. 38, 39, respectively).

As to claims 27, 31, Fishkin discloses that the movement of the electronic muscle causes the processor to sense handling by user for determination of left-handedness or right-handedness thereof (col. 3, lines 28-37).

As to claim 28, Fishkin discloses the electronic material can be resized and rescale (col. 9, lines 40-51).

As to claim 32, Fishkin discloses that in response to the determination of handed the electronic material generated a plurality of function buttons in proximity user's fingers (e.g. a

Art Unit: 2674

plurality of sensors 26, 28 function as a plurality of buttons are surrounding to the display and can perform different functions such as moving object, scrolling the image etc. by touching the sensors or buttons).

As to claim 35, Fishkin discloses the electronic muscle material vibrate to apprise user of relevant message being display (col. 15, lines 20-26).

9. Claim 30 is rejected under 35 U.S.C. 103(a) as being unpatentable over Fishkin et al. (US Patent No. 6,243,074) in view of Bellin (US Patent No. 4,857,916) as applied to claim 29 above, and further in view of Henty (US Patent No. 5,838,138).

As to claim 29, it is noted that Fishkin as modified discloses the device including a rechargeable battery but fails to disclose the movement of the electronic muscle material cause charging of the battery. Henty is cited to teach a portable computer device which including a mechanical power converter for converting movement of the input device into electrical current to cause charging of the battery (see Fig. 1a, 1b). It would have been obvious to one of ordinary skill in the art to have included a mechanical power converter as taught by Henty into the electronic muscle device of Fishkin as modified, so that the deformation movement of the electronic muscle can generate electrical current for charging the battery, so as to save power.

Allowable Subject Matter

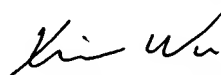
10. Claims 5, 6, 12, 33 and 34 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Conclusion

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to XIAO M. WU whose telephone number is 571 272-7761. The examiner can normally be reached on 6:30 am to 4:00 pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, PATRICK EDOUARD, can be reached on 571 272-7603. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


XIAO M. WU
Primary Examiner
Art Unit 2674